



## *Annual Performance Report Form*

**Facility Name:** IBM - BURLINGTON

**Performance Track ID #:** A01-0009

**Annual Performance Report #:** 1

**Reporting Year:** 2001

**Due Date:**

# General Facility Information

To the extent possible, EPA will pre-complete items A.1-A.8 for you. Please ensure that the information in A.1-A.8 below is accurate, complete, and up to date. Please supply or revise any information as necessary and then check the box to the left of the item(s) to indicate where changes have been made. Items A.9 and A.10 cannot be pre-completed; please respond as directed in A.9 and A.10 below.

*Did you make changes? If so, check box.*

A.1

Name of your facility: IBM - Burlington

A.2

Name of your parent company: IBM Corporation

A.3

Facility contact person for the Performance Track program

Name: Mr./Mrs./Ms./Dr. Mr. Jay M. Dietrich

Title: Manager, Chemical and Environmental Programs

Phone: 802/769-4046 Fax: 802/769-4139 E-mail: jdietric@us.ibm.com

A.4

Facility's location

Street Address: 1000 River Street

Street Address (cont.):

City/State/Zip Code: Essex Junction, VT 05452

A.5

Facility's website address (if any):

A.6

Number of employees (full-time equivalents) who currently work in the facility:

Fewer than 50 50 - 99 100 - 499 500 - 1000 **More than 1000 XX**

A.7

Does your company meet the Small Business Administration definition of a small business for your sector? Yes No **XX**

A.8

North American Industrial Classification System (NAICS) Code(s) that are used to classify business at the facility: 334413 (SIC 3674)

A.9

In your application and, perhaps, in previous annual performance reports, you described what your facility does or makes. Have there been any (additional) changes to your facility's list of products and/or activities? If so, please list them in the space below. Yes **No XX**

A.10

Please update the list of environmental requirements that apply to your facility. In the space below, indicate any changes that have taken place during this reporting period. If you have no changes to report, please write "No changes."

No Changes.

# Environmental Management System

**B.1 Environmental Management System Assessment.** Please summarize EMS assessments conducted *during the year*. Attach additional sheets as necessary.

a. Was an EMS audit or other assessment done by an independent third party?

Yes

If yes, please provide the *type* (e.g., ISO 14001 certification), the *scope*, and the *dates* (mo/yr) of each assessment.

Third party ISO 14001 recertification audit, 6/26-28/01

b. Was an internal or corporate EMS audit conducted? Yes

If yes, please provide the *scope* and the *dates* (mo/yr) of each audit.

An internal EMS audit conducted by a site business controls and environmental programs representatives sampled all elements of the facility EMS throughout calendar year 2001.

c. Was a compliance audit conducted? Yes

If yes, please provide the *scope* and the *dates* (mo/yr) of each audit, and indicate *who* conducted the audit(s) (e.g., facility staff, corporate groups, third party).

Facility environmental programs staff conducted a regulatory compliance audit of all applicable federal environmental regulations in August and September 2001.

Selected areas are monitored and audited monthly and reported for review to environmental management.

d. (Optional) If you would like to describe any other audits or inspections that were conducted at your facility, please do so here.

**(continued)**

**B.1**

e. Briefly summarize corrective actions taken and other improvements made as a result of your EMS assessments and compliance audits.

In the event of an actual/potential noncompliance (regulatory) or actual nonconformance (EMS), IBM Burlington responds with the following three-step approach:

- Root Cause Analysis -- determination of the cause of the problem, may be method, equipment, personnel, material, etc., or a combination of causes. This action could include the determination of whether the problem exists in other areas of the operation.
- Corrective Action -- implementation of action(s) that address actual nonconformance to the EMS or actual/potential regulatory noncompliance. These actions may include but are not limited to: (1) root cause analysis; (2) changes to site processes; (3) changes to site internal procedures; (4) changes to training requirements; and (5) changes to site monitoring and measurement programs.
- Preventive Action -- implementation of measure(s) taken to prevent similar nonconformance(s)/ noncompliance(s) from reoccurring.

Examples of process improvements IBM Burlington has made as a result of EMS and compliance audits include:

Identified additional documents for records management;  
Added items to environmental tracking procedure to ensure regular review;  
Clarified document control requirements and work area placement;  
Reviewed and updated environmental procedures;  
Continued migration of local desk procedures to internal environmental web site;  
Improved processes and work flows.

f. Has your facility corrected all instances of potential non-compliance and EMS non-conformance identified during your audits and other assessments?

Yes

If no, please explain your plans to correct these instances.

g. When was the last Senior Management review of your EMS completed? 02/2001 & 2/2002

Who headed the review?

Name: H. J. Geipel, Jr.

Title: Senior Location Executive

(continued)

**B.2 ISO 14001 Certification.** Is your facility currently certified to ISO 14001? Yes

**B.3 Environmental Aspects Identification.** When did your facility last conduct a systematic identification and/or review of your environmental aspects? 12/2001

**B.4 Progress Toward Achieving Objectives and Targets.** In the table below, please provide a narrative summary of progress made toward EMS objectives and targets. **You may limit the summary to environmental aspects that are *significant* and towards which *progress* has been made during the reporting year.** In cases where progress relates specifically to a Performance Track performance commitment, complete the *Environmental Aspect* column, but in the *Progress* column simply refer to the performance commitment tables in Section C, i.e. "See Section C." Attach additional sheets as necessary.

<i>Environmental Aspect</i>	<i>Progress Made This Year</i> (e.g., quantitative or qualitative improvements, activities conducted)
Category 2 Waste Recycle	Recycled 80% of nonhazardous chemical waste (excluding wastewater treatment sludge) against a target of 35%.
Pollution Prevention	Recycling and reuse of acids on one type of cleaning tool has reduced acid consumption by approximately 70,000 gallons annually. The facility sent 119,019 pounds of spent copper plating solution for off-site recycle in 2001. This material was also granted a recycling exemption from the State of Vermont. Working with USEPA, EPA New England, and the State of Vermont, the industrial wastewater treatment sludge was declassified as an F006 listed hazardous waste under a Project XL agreement incorporated in Vermont regulations in March 2001.

# ***Environmental Performance Commitments***

Please use the tables on pages 6-9 to summarize your facility's environmental performance against your Performance Track performance commitments. Complete only those boxes related to the baseline, current year, and performance commitment. If any of the boxes have been pre-completed for you, please verify the information. If you find information that is incorrect, cross it out and write in the correct information. **Leave blank any columns for future reporting years.**

### Performance Commitment 1

a. Use this table to report data related to your first performance commitment.

C.1

<b>Category</b> (see page 16 of the instructions): Energy Use					
<b>Aspect</b> (see page 16 of the instructions): Total Energy Use					
	<i>Baseline (as stated in your application)</i>	<i>Year 1</i>	<i>Year 2</i>	<i>Year 3</i>	<i>Performance Commitment (the goal stated in your application)</i>
<i>Calendar Year</i>	1999	2001			
<i>Actual Quantity (per year)</i>	766,007	807,446			677,714
<i>Measurement Units</i>	MWH (Megawatt-hours)				
<i>Normalizing Factor*</i>	1	1.13			
<i>Basis for your Normalizing Factor*</i>					
<i>Normalized Quantity* (per year)</i>	766,007	714,260			
*See pages 17-19 of the instructions for more information					

b. Briefly describe how you achieved improvements for this aspect or, if relevant, any circumstances that delayed progress.

*GOAL: 4% annual conservation.*

*PROGRESS TOWARD GOAL: 2000 5.8% conservation                      2001 11.5% conservation*

Annual 4% Normalized Conservation Target: 2000 761,776 MWH                      2001 775,148 MWH

2000 Projected Use: 842,300 MWH

2001 Projected Use: 912,789 MWH

2000 Data: Actual 793,517 MWH    Normalizing Factor 1.06    Normalized 747,560 MWH

The normalizing factor is calculated by dividing projected usage by current year usage. Projected use is actual use plus total conserved. The normalized quantity is calculated by dividing the projected use by the normalizing factor. This normalizing factor was developed by IBM Corporate Staff for use by all IBM locations.

Actual electricity and fuel usage data normalized using a Burlington facility-specific production-based normalizing factor are given below. The normalized data is not indicative of the facility conservation progress as energy consumption is largely independent of production. A manufacturing tool which is idled or operating at reduced capacity has essentially the same requirements for electricity and other services.

	<b>Actual Use (MWH)</b>			<b>Normalizing Factor</b>	<b>Normalized Use (MWH)</b>		
	<b>Elec</b>	<b>Fuel</b>	<b>Total</b>		<b>Elec</b>	<b>Fuel</b>	<b>Total</b>
1999	493,455	273,007	766,462	1.0	493,455	273,007	766,462
2000	518,940	274,577	793,517	0.9974	520,293	275,293	795,586
2001	525,232	282,213	807,446	0.7865	667,809	358,821	1,026,631

The location has an active energy conservation program, focusing on use reduction, installation of energy-efficient equipment, and use minimization.

c. Please list any other EPA voluntary programs to which you are also reporting these data (e.g., Energy Star, Project XL).



**(continued)**

## C.2 Performance Commitment 2

a. Use this table to report data related to your second performance commitment.

<b>Category</b> (see page 16 of the instructions): Air Emissions					
<b>Aspect</b> (see page 16 of the instructions): Emissions of Greenhouse Gases					
	<i>Baseline (as stated in your application)</i>	<i>Year 1</i>	<i>Year 2</i>	<i>Year 3</i>	<i>Performance Commitment (the goal stated in your application)</i>
<i>Calendar Year</i>	1999	2001			
<i>Actual Quantity (per year)</i>	0.113	0.076			See Below
<i>Measurement Units</i>	Million metric tons carbon equivalent (MMTCE)				
<i>Normalizing Factor*</i>	1.189	0.932			
<i>Basis for your Normalizing Factor*</i>	Production-based value added operations.				
<i>Normalized Quantity* (per year)</i>	0.095	0.082			
*See pages 17-19 of the instructions for more information					

b. Briefly describe how you achieved improvements for this aspect or, if relevant, any circumstances that delayed progress.

**GOAL:** Reduce PFC emissions 40% (production-indexed from 1995 baseline of 0.093 MMTCE).

**NOTE:** The 1995 baseline has been adjusted from that provided in the original application.

**PROGRESS TOWARD GOAL:** 2000 9.15% reduction                      2001 12.17% reduction  
2000 data: Actual 0.100 MMTCE. Normalizing Factor 1.185. Normalized Quantity 0.085 MMTCE

EMISSIONS IN TOTAL POUNDS OF PFCs:

1999: 102,436                      2000: 91,456                      2001: 69,503

NORMALIZED EMISSIONS IN TOTAL POUNDS OF PFCs:

1999: 86,161                      2000: 77,157                      2001: 74,553

The normalizing factor is based on site manufacturing operations using value added operations out production index (PI) methodology as described in the IBM Burlington application form. Each year's normalizing factor is multiplied by the preceding years' from the 1995 baseline. For example, the 2001 normalizing factor (NF) is calculated as follows:  $NF_{2001} = (PI_{1995}) \times (PI_{1996}) \times (PI_{1997}) \times \dots \times (PI_{2001})$

1. Replace  $C_2F_6$  cleaning processes with  $NF_3$  cleans.

2. Reduce  $C_2F_6$  flow in cleaning processes where  $NF_3$  is not a viable option.

c. Please list any other EPA voluntary programs to which you are also reporting these data (e.g., Energy Star, Project XL).

Project XL: Copper Metallization and Semiconductor/EPA MOU for PFC Emissions Reductions.  
Climate Leaders Partnership Program

## (continued)

### C.3

#### Performance Commitment 3

a. Use this table to report data related to your third performance commitment.

<b>Category</b> (see page 16 of the instructions): Waste					
<b>Aspect</b> (see page 16 of the instructions): Hazardous Solid Waste					
	<i>Baseline</i> (as stated in your application)	<i>Year 1</i>	<i>Year 2</i>	<i>Year 3</i>	<i>Performance Commitment</i> (the goal stated in your application)
<i>Calendar Year</i>	1999	2001			
<i>Actual Quantity</i> (per year)	1,128,000 (*)	1,737,000			See Below
<i>Measurement Units</i>	pounds (lbs)				
<i>Normalizing Factor*</i>	1.0	.7865			
<i>Basis for your Normalizing Factor*</i>	Production-based value added operations.				
<i>Normalized Quantity*</i> (per year)	1,128,000	2,208,000			
*See pages 17-19 of the instructions for more information					

b. Briefly describe how you achieved improvements for this aspect or, if relevant, any circumstances that delayed progress.

*GOAL: Continuous reduction in production hazardous waste generation year to year, with adjustments for changes in production.*

*PROGRESS TOWARD GOAL: 2000 1.9% increase                      2001 92.2% increase*

2000 data: Actual 1,146,000 lbs. Normalizing Factor 0.9974. Normalized Quantity 1,149,000 lbs.

The normalizing factor is based on site manufacturing operations using value added operations out methodology as described in the IBM Burlington application form.

Identification, evaluation, and implementation of manufacturing processes and subsequent waste minimization of production hazardous waste.

Beginning in 2000 and continuing in 2001, manufacturing processes were converted to a new solvent and new processes were implemented which drove significantly increased quantities of the solvent. Use of this solvent has significant economic and yield benefits. The site is actively working on waste minimization projects for this material and is pursuing the possibilities of recycle or direct reuse of waste solvent.

(\*)NOTE: The baseline data is a correction to that supplied in the original Performance Track application. The performance commitment remains the same as that in the application.

c. Please list any other EPA voluntary programs to which you are also reporting these data (e.g., Energy Star, Project XL).

**(continued)**

## C.4 Performance Commitment 4

a. Use this table to report data related to your fourth performance commitment.

<b>Category</b> (see page 16 of the instructions): Water Use					
<b>Aspect</b> (see page 16 of the instructions): Total Water Use					
	<i>Baseline</i> (as stated in your application)	<i>Year 1</i>	<i>Year 2</i>	<i>Year 3</i>	<i>Performance Commitment</i> (the goal stated in your application)
<i>Calendar Year</i>	1999	2001			
<i>Actual Quantity</i> (per year)	1,669,000,000	1,593,000,000			See Below
<i>Measurement Units</i>	gallons (gal)				
<i>Normalizing Factor*</i>	1.0	0.7865			
<i>Basis for your Normalizing Factor*</i>	Production-based value added operations.				
<i>Normalized Quantity*</i> (per year)	1,669,000,000	2,025,000,000			
*See pages 15-17 of the instructions for more information					

b. Briefly describe how you achieved improvements for this aspect or, if relevant, any circumstances that delayed progress.

*GOAL: 2% annual reduction in water use, normalized to production.*

*NOTE: The original commitment in the Burlington application did NOT index water use to production.*

2000 data: Actual 1,756,000,000 gal. Normalizing Factor 0.9974. Normalized Quantity 1,761,000,000.

The normalizing factor is based on site manufacturing operations using value added operations out methodology as described in the IBM Burlington application form. The normalized data is not indicative of the facility conservation progress as water use is largely independent of production. A manufacturing tool which is idled or operating at reduced capacity has essentially the same requirements for electricity and other services. Facilities support systems, such as high purity water generation, are also largely independent of production as the systems must be operated at or near capacity to maintain specifications and purity levels.

Conservation activity included process equipment optimization and minimization of idle flows; recycle of deionized water system rinse-up waters; recycle of deionized water system reject water; and point-of-use scrubber replacement.

c. Please list any other EPA voluntary programs to which you are also reporting these data (e.g., Energy Star, Project XL).

# Public Outreach and Performance Reporting

D.1

Please briefly summarize the public outreach and reporting activities that your facility has conducted during the year. Feel free, but not obligated, to attach supporting materials (e.g., meeting agendas, public announcements).

- Represented on the PFC and Energy working groups for the semiconductor manufacturer industry association, Sematech.
- Member of the Performance Track Members Association.
- Hosted tours by local schoolchildren of the location wastewater treatment facility.
- Participated on transportation and land use (Act 250) planning boards.
- The location hosted Exite Camp, a program designed to interest elementary school girls in careers in engineering and science.
- For the seventh summer, participated in the New England Board of Higher Education's environmental internship program.
- On site exhibition of 'green' environmental practices and chemical/waste management alternatives for the homeowner and information on the location's environmental performance.
- IBM's overall environmental performance is rolled up and communicated to the public in its Corporate Annual Environment and Well-being Report (<http://www.ibm.com/ibm/environment/annual/index.phtml>).

D.2

Please indicate which of the following methods your facility plans to use to make its Performance Track Annual Performance Report available to the public. Please check as many as are appropriate.

Website (URL ): <http://www.ibm.com/ibm/environment/index.phtml>

Open House

Meetings

Press Releases

Community Advisory Panel

Other

## ***Self-Certification of Continued Program Participation***

On behalf of, IBM Burlington

I certify that

- ◆ I have read and agree to the terms and conditions specified in *the National Environmental Performance Track Program Guide*. This facility, to the best of my knowledge, continues to meet all program criteria;
- ◆ I have personally examined and am familiar with the information contained in this Annual Performance Report. The information contained in this report is, to the best of my knowledge and based on reasonable inquiry, true, accurate, and complete;
- ◆ My facility has an environmental management system (EMS), as defined in the Performance Track EMS criteria, including systems to maintain compliance with all applicable federal, state, tribal, and local environmental requirements in place at the facility, and the EMS will be maintained for the duration of the facility's participation in the program;
- ◆ My facility has conducted an objective assessment of its compliance with all applicable federal, state, tribal, and local environmental requirements; and the facility has corrected all identified instances of potential or actual noncompliance; and
- ◆ Based on the foregoing compliance assessments and subsequent corrective actions (if any were necessary), my facility is, to the best of my knowledge and based on reasonable inquiry, currently in compliance with applicable federal, state, tribal, and local environmental requirements.

I agree that EPA's decision whether to accept participants into or remove them from the National Environmental Performance Track is wholly discretionary, and I waive any right that may exist under any law to challenge EPA's acceptance or removal decision.

I am the senior manager with responsibility for the facility and am fully authorized to execute this statement on behalf of the corporation or other legal entity whose facility is part of the National Environmental Performance Track program.

Signature/Date:

Printed Name: H. J. Geipel, Jr.

Title: Senior Location Executive

Phone Number/E-mail Address: 802/769-2060 / hgeipel@us.ibm.com

Facility Name: IBM Burlington

Facility Street Address: 1000 River Street Essex Junction, VT 05452

Performance Track Identification Number: A01-0009

### **Paperwork Reduction Act Notice**

The public reporting and recordkeeping burden for this collection of information is estimated to average 188 hours per respondent annually. Burden means the total time, effort, or financial resources expended by persons to generate, maintain, retain, or disclose or provide information to or for a Federal agency. This includes the time needed to review instructions; develop, acquire, install, and utilize technology and systems for the purposes of collecting, validating, and verifying information, processing and maintaining information, and disclosing and providing information; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to be able to respond to a collection of information; search data sources; complete and review the collection of information; and transmit or otherwise disclose the information. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number.

Send comments on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including through the use of automated collection techniques to the Director, Collection Strategies Division, U.S. Environmental Protection Agency (2822), 1200 Pennsylvania Ave., NW, Washington, D.C. 20460. Include the OMB control number in any correspondence. Do not send the completed form to this address.